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Apr 15, 1987

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TITLE: Methane enriched bio-gas obtd. from manure - using nitrifying bacteria and algae to reduce carbon di:oxide content

INVENTOR: LANGHANS, G; REITEMEIER, D

PATENT-ASSIGNEE:

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PRIORITY-DATA: 1985DD-0285375 (December 24, 1985)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
DD 244742 A	April 15, 1987		006	

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
DD 244742A	December 24, 1985	1985DD-0285375	

INT-CL (IPC): C02F 3/28; C02F 11/04

ABSTRACTED-PUB-NO: DD 244742A

BASIC-ABSTRACT:

A method for obtaining methane-enriched biogas from a decomposable substrate such as liquid animal manure comprises anaerobic treatment in a first stage, followed by bacteria inoculation in a second stage and passing of carbon dioxide-contg. biogas from the first stage through the culture medium of the second stage. A combination of bacteria and algae, consisting of chemoautotrophic and/or photoautotrophic algae, suspended and/or sessile nitrifying bacteria, is used for forming the culture colonies at a process temp. of 20-40 deg. C.

Additionally, chemoautotrophic and/or photoautotrophic bacteria which reduce hydrogen sulphide are also introduced into the culture medium. A nutrient substrate may also be introduced. Excessive biomass from the second stage may be recycled to the first stage. Opt. a denitrification stage is incorporated, either after the second stage or between the first and second stages. The appts. is also claimed.

USE/ADVANTAGE - For obtaining methane-enriched biogas from agricultural waste such as liquid manure, industrial waste or communal sewage. Low energy demand and simple and inexpensive plant and process. The methane enrichment gives a biogas of high heat value.

CHOSEN-DRAWING: Dwg.0/2

TITLE-TERMS: METHANE ENRICH BIO GAS OBTAIN MANURE NITRIFICATION BACTERIA ALGAE REDUCE CARBON DI OXIDE CONTENT

DERWENT-CLASS: D15 E17 H06